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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,715	03/27/2006	Nobuhiro Hayashi	4439	4988
7590 Floyd B. Carothers CAROTHERS AND CAROTHERS Suite 200 445 Fort Pitt Blvd. Pittsburgh, PA 15219			EXAMINER VETTER, ROBERT A	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 01/27/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/574,715

**Applicant(s)**

HAYASHI ET AL.

**Examiner**

ROBERT VETERE

**Art Unit**

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Examiner's Comments*

An amendment, amending claim 1, was received and entered on 10/8/2009.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) in view of Okuda et al. (US 5,258,074), Honda et al. (US 6,195,249) hereinafter '249, Honda et al. (US 6,413,456) hereinafter '456 and Woolley et al. (US 5,743,966).

**Claims 1 and 4:** Makoto teaches a method of manufacturing magnetic recording media. Specifically, the process for manufacturing the magnetic recording medium consists of a processing step of electrifying a polymer film in the traveling state (e.g. an insulating material base film is continuously fed out). The polymer film is kept in tight contact with the cooling roll by electrification of the traveling polymer film (i.e. cooled in close contact with a cooling roller) (see abstract). Furthermore, a metal is evaporated onto said insulating material base film to deposit a metal film thereon [0029]. An electron gun is installed in the upper wall of the vacuum chamber to pass along the center line of the cooling roller and to cross the direction of the high polymer film as it is conveyed (i.e. charging the insulating material base film) [0021]. Makoto does not teach applying a voltage/charging after the deposition of the metal film, forming a mask pattern by depositing an oil, or plasma-bombarding the insulating material base film.

Okuda teaches an evaporation apparatus featuring a voltage applying and current measurement means. Specifically after a metal film is deposited on a substrate film, a voltage is applied to the metal membrane-deposited film substrate, which is applied between the auxiliary roller (i.e. roller 7a) and cooling roller to ensure that the metal membrane adheres to the film substrate with great strength (as per claim 4) (3:47-63; 4:4-32; see fig. 1). Therefore, it would have been obvious to one skilled in the art at the

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time of the invention to apply a voltage after depositing a metal film in Makoto's method as taught by Okuda in order to enhance the cooling efficiency of the substrate by promoting adherence to the drum and to ensure that the metal membrane binds to the film substrate with a favorable strength.

Makoto/Okuda do not expressly teach forming a mask pattern by depositing an oil, or plasma-bombarding the insulating material base film.

'249 teaches electronic components having gaps between conductive thin films whereby oil can be used for patterning a metal thin film. Specifically, oil is applied in a small amount in accordance with the pattern before the formation of the metal thin film such that the metal is not formed on the oil pattern (5:35-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize an oil pattern for depositing metal films in Makoto/Okuda since '249 teaches that it was know to do so with the reasonable expectation of success. Makoto/Okuda/'249 do not expressly teach plasma bombarding an insulating material.

'456 teaches a method for manufacturing electronic parts whereby metal thin films are deposited on a substrate. After deposition, '456 teaches a plasma irradiation step (e.g. removing electrical charge on said insulating base film) in order to remove extra patterning material (5:57-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize an irradiation step in Makoto/Okuda/'249 as taught by '456 in order to remove extra patterning material.

'456 however, does not expressly teach that the charge removing treatment occurs between the auxiliary roller and the winding roller. However, Okuda explains that, when applying a charge to the film, it is desirable to prevent stretching, contraction, melting and wrinkling of the film when it is wound around the winding roller (2:52-3:11). In addition, Woolley teaches a method of treating an insulating film with a plasma to dissipate charge (see, e.g., Abst.) wherein the plasma is applied near the winding roller to prevent the film from sticking to the winding roller (claim 1). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the plasma treatment between the auxiliary roller and the winding roller as taught by Okuda and Woolley in order to ensure that the material is cleanly wound around the winding roller with the predictable expectation of success.

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**Claims 2-3:** Makoto teaches an electron gun such that the electron beam can be scanned to the length direction of a cooling roller, the cross direction of the substrate film in which it runs (e.g. charging said insulating material base with charged particles while being scanned in the width direction of the insulating material base film as it is in contact with said cooling roller) ([0021], see drawing 1).

**Claim 5:** Makoto teaches using a measuring device consisting of a piezoelectric sensing element 26, which is capable of controlling the applying voltage as to place the surface potential within a predetermined range ([0017], see drawing 1).

#### ***Response to Arguments***

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT VETERE whose telephone number is (571)270-1864. The examiner can normally be reached on Mon-Fri 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Vetere/  
Examiner, Art Unit 1792

/Michael Cleveland/  
Supervisory Patent Examiner, Art Unit 1792